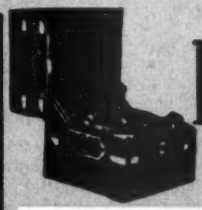
The American Horologist

INCORPORATING

HOROLOGY

THE NATIONAL MAGAZINE
FOR ADVANCEMENT IN TIMEKEEPING



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Volume 11 NOVEMBER, 1944 No. 11
ELEVENTH YEAR OF PUBLICATION

"Yes, things have changed, Son"

"I REMEMBER BACK IN '44 WHEN YOU WERE ON SAIPAN WE COULD SELL ALMOST ANYTHING TO ALMOST ANYBODY."

"Yes, I was beginning to wonder whether things would ever be the same again. For awhile it seemed like the jeweler was losing his traditional position in the community as a reputable dealer, a capable craftsman and gift counselor. Folks could buy watches at the corner drug stores, pens and lighters—and often rings—at hardware and furniture stores, and costume jewelry almost anywhere.

"As for the jewelry stores—most of them looked like combinations of a native bazaar in Cairo and the general store at Crabtree Corners. Folks were making money and spending it... a retailer could sell almost anything he could get his hands on.

"We did our best to keep up the old quality standards but most of the old-line firms had gone to war and we took what we could get—or nothing. Watches, for instance. We didn't have a Hamilton in our store for over two years.

"But they're coming back now, son, back from the war just like yourself. After a little while we'll be all the way back in our own business—the business of being a retail jeweler! One lesson I learned was that folks expect a jeweler to sell them things they can be proud of. Proud to *give* or proud to *get*. And if the day ever comes again when I can't sell them that kind of merchandise then I'll get out of the business."

• • •

Yes, many jewelers all over the country feel the same way about it. Many of them—fed up with make-shift merchandise, with substitutes, and doubtful deals with fly-by-night suppliers. The old quality lines are on the way back . . . the lines that help a jeweler maintain his identity . . . the kind of merchandise which is sold with pride and profit. The kind that kept the whole jewelry business on an even keel by providing recognized standards of quality by which all other merchandise—and the store itself—was judged.

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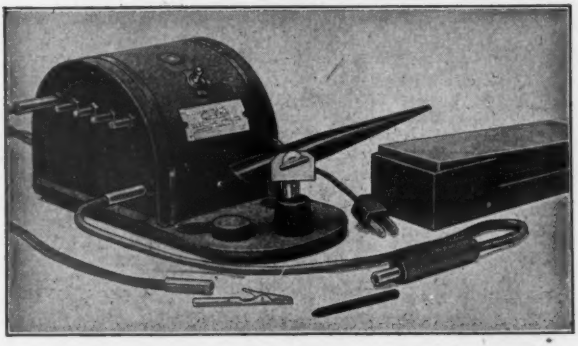

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ELEVENTH YEAR OF PUBLICATION

The AMERICAN HOROLOGIST

Incorporating HOROLOGY

Published Monthly

By Roberts Publishing Co., Denver, Colorado, in the interest of the Horological & Jewelry Industry.

To advance Education | To assist in Obtaining State Legislation | To Develope Standardization | To Encourage & Recognize Effort & Ability

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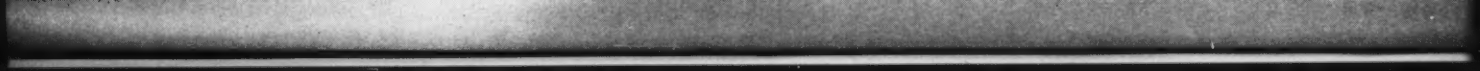

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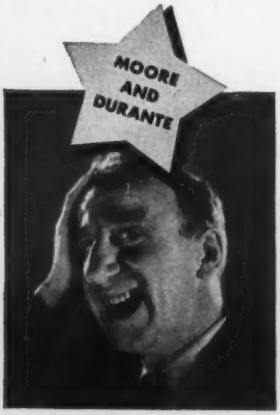

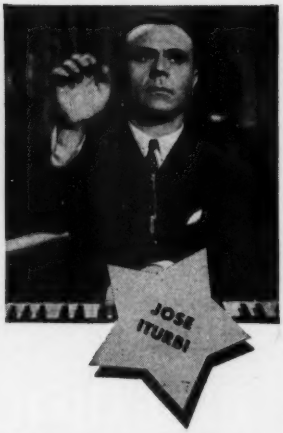

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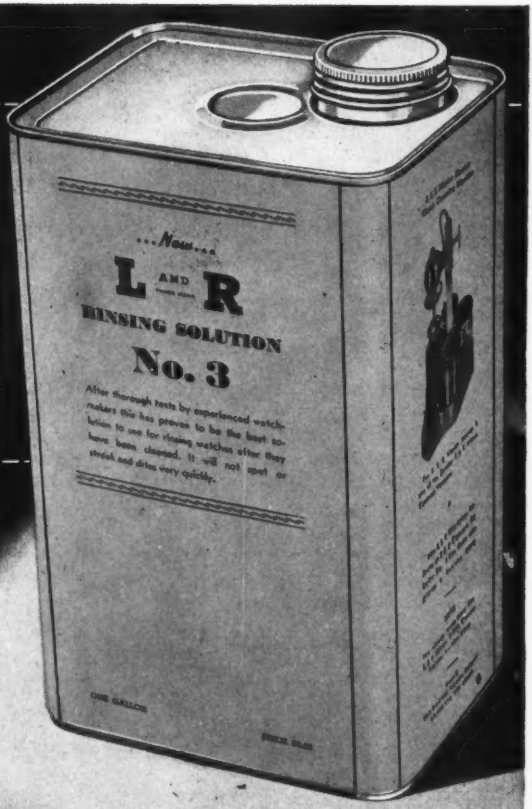
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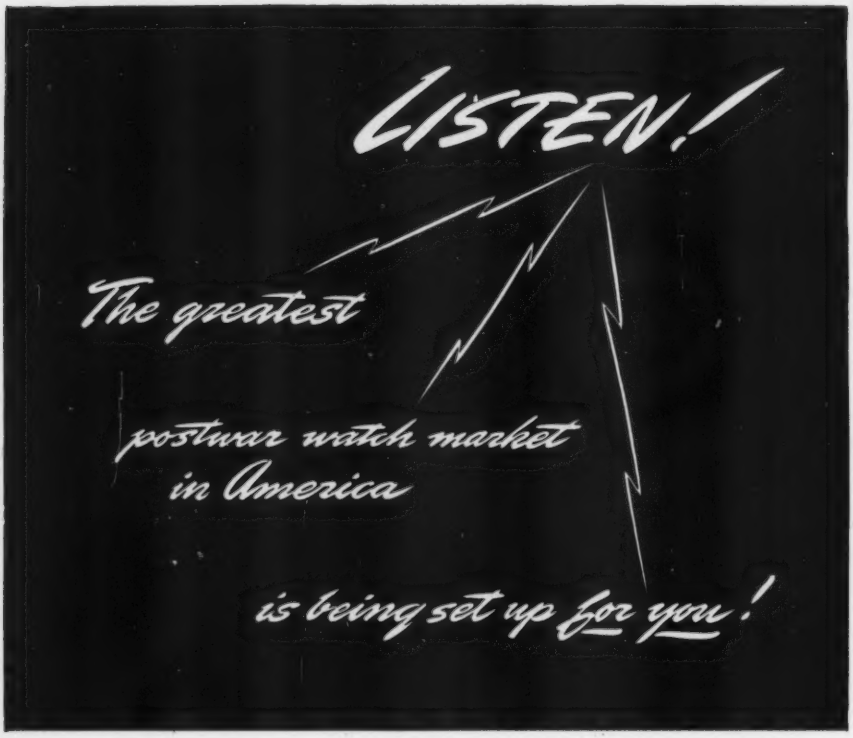

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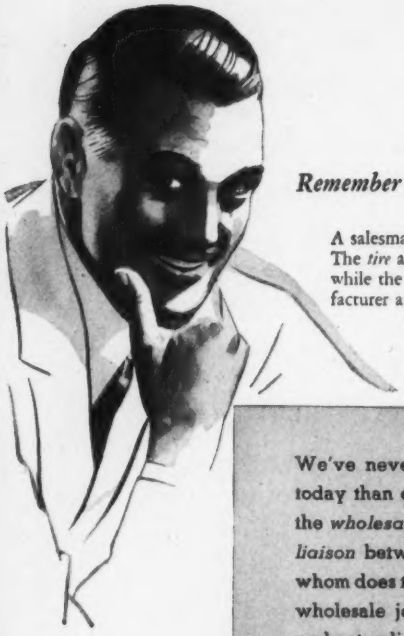

Remember the old one that went something like this:

A salesman and automobile tire have much in common. The *tire* absorbs the bumps between the car and the road, while the *salesman* absorbs the bumps between the manufacturer and retailer.

We've never heard truer words said in jest . . . truer today than ever, when you consider the responsibility the *wholesale jeweler* shoulders today as all-important *liaison* between the *manufacturer* and the *retailer.* To whom does the retail jeweler turn for merchandise? The wholesale jeweler, of course. Whose experience and understanding does the retail jeweler utilize in building volume and profit? The wholesale jeweler's, of course.

In the light of today's critical market, it is only fair that we realize the war priorities, scarcities of materials and lack of labor that limit the wholesaler's supply. Your wholesale jeweler is doing all that he possibly can to serve you with all the means he can marshal. Remember, his cooperation and understanding are intangibles that can serve you well, given the chance.

Learn to rely on your wholesaler's salesman—let him help you with your present problems; let him help you plan and prepare for the future.

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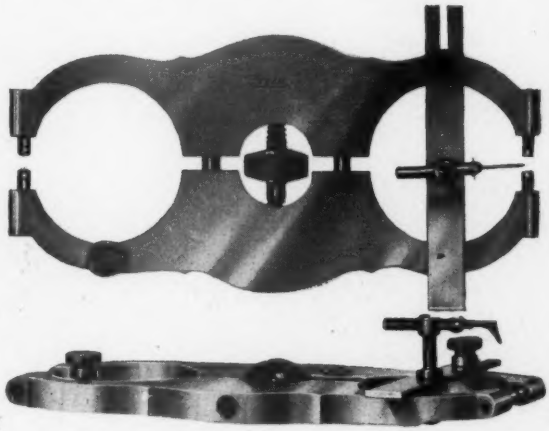

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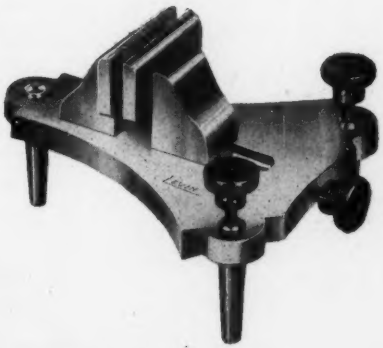

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I. D. WATCH CASE COMPANY

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Repairing A Chronograph

(Continued from October, 1944)

From the 'Journal Siusse Horlegerie', by B. Humbert, Horological School of Bienne

Some Methods of Working

First of all, how should a spring be wound? The main thing, during the course of this operation, is not to break the spring; this is the reason why it is worth while choosing a method offering all measure of security.

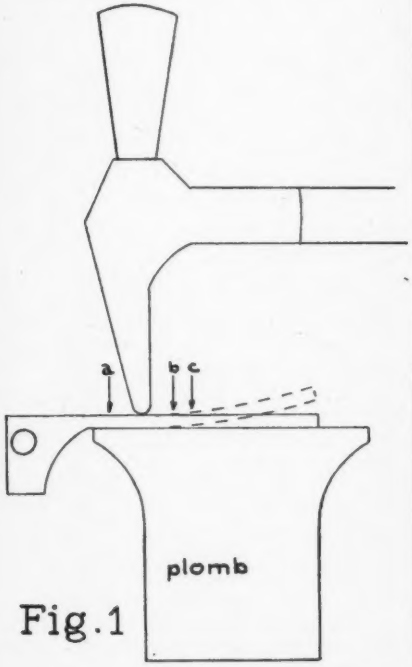

Fig.1

In the case of a straight spring, we will place it on a small heap of lead secured to the vice. We will maintain the spring in place by holding it between the thumb and the first finger of the left hand, and striking with the edge of the hammer on the places indicated by the small arrows a, b, c, fig. 1. The spring will tend itself as indicated by the dotted line.

Let us note that, by using the same method, raise or lower the blade of the spring by striking on the blade to raise it, and under the blade to lower it.

In the case of an arched spring, we will proceed in the same way, but replacing the lead by a small brass stake on which we will have filed a curve a little more accentuated than that of the spring; by striking according to the small arrows a, b, c, d, or fig. 2, the spring will take the form of the curve indicated by the dotted line.

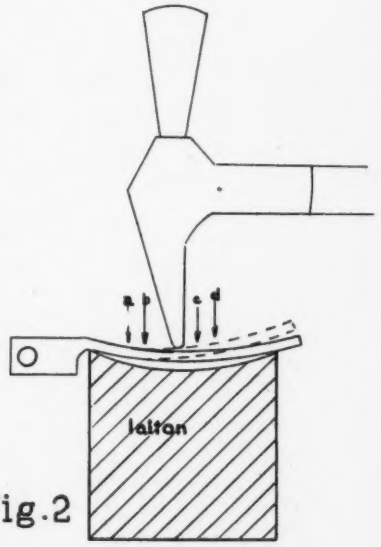

Fig.2

The two methods indicated above can be applied to springs of normal strength (hammer-spring, pivoted detent spring, etc.); they are not recommended in the case of very weak springs, which might be deformed by such methods.

In order to wind the friction spring or that of the minute jumper, whose blade measures only a few hundredths of millimeters in thickness, it is preferable to wind the blade directly with tweezers, not by bending same, but by stretching it from back to front, the tweezers describing a curve and following the blade in the direction of the arrow (fig. 3).

Fig.3

In order to raise or lower the blade of a weak spring it is not possible to strike over or below the blade, by placing it on a piece of lead, the blade having 4 to 6 hundredths millimeters' thickness, it would be deteriorated. On the other hand, the following methods give excellent results; the side of the spring is placed

Fig.4

Fig.5

on a small stake of tempered steel, whose surface has been well softened or polished; the spring is placed in the position shown in fig. 4 if the blade must be raised, and in that shown in fig. 5 if it is to be lowered; with the slightly rounded edge of a steel hammer, you strike on the blade, inclining the hammer slightly so that it does not touch the side A of the blade which, as a result of hammer hardening at the places indicated by the small arrows a, b, c, will be lengthened, the blade will then take the position indicated by the dotted line.

When a friction-spring or a minute-jumper is to be weakened, certain precautions should be taken, if good results are to be obtained; these precautions, dictated by experience are the following:

A very weak spring should not be filed on a "filing-wood" of any kind, this support should be neither too soft nor too hard; a bit of the handle of a tooth-brush (bone) or small block of ebony or ebonite, are particularly adapted to this purpose; the surface of this small block, which

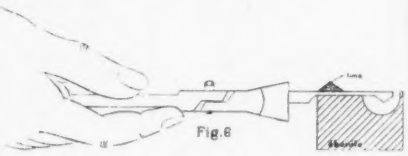
Fig.6

should be five millimeters wide at the most, will be secured to the vice, and filed very flat; ;then, by means of a graver or a well-cutting file, a small groove will be shaped in the forward part of our small block; this groove, very clearly marked, will be one and a half times as wide as the width of the spring, and its depth will not be superior to the thickness of the spring which is to be filed, in order that the spring may be touched by the file; the success of this delicate operation depends, for the greater part, on the correct preparation of this small groove which, for a spring of 6 hundredths thickness, for example, should be 4 or 5 hundredths deep.

The spring being secured in dial-work tongs, the spring will be placed in the small groove in such a way that it rests on its entire length; the tongs will not be held tightly in the hand, but only placed on the fingers, in the interior of the hand; the elbow resting on the work bench will ensure perfect immobility; in this way, if—for one reason or another—the spring is pushed out of the groove, the tongs, which are not held, but simply resting on the hand, will follow the movement of the spring, thus avoiding its rupture (fig. 6).

Concerning the file to be used for this operation, we would advise a ridged-back file No. 5, for with a file

which is too soft, the spring can be too easily carried away out of the groove. In order to test the resistance of so weak a spring, a very fine pivot reamer can be used.

The blade of a spring can be softened on a block of the same hardness as that used for the filing, but taking care to touch the spring with the buff-stick in one sense only, that is towards the point, if it were touched in a backwards sense as well, the spring might become deformed.

A spring can also be weakened by means of well-sharpened graver; for this purpose, the spring held in tongs will also be held on a small block of materal sufficiently hard so that the spring will not sink in it, and the blade is "scratched" with the graver, always in the way indicated for softening, that is towards the point.

Another question over which it is worth while our stopping is that of the stop-screws, or more exactly, how to proceed to free a part or remove the play in height of a part pivoting on a stop-screw.

When a part (column-wheel, pivoted detent, brake) pivoting on a stop-screw, has too much play, this is due to the fact that the screw is too long; in order to correct this defect, certain watchmakers have the bad habit of drilling the bridge by means of a pivot-drill, or even, sometimes, with a friction-robler drill, in such a way that the screw can be lowered, thus limiting the play of the part in question. Good watch-manufacturers do not stand for this, and with reason, for by drilling the bridge, it seldom happens that the screw remains straight, and if, for one reason or another, it is necessary to replace the screw, there are many chances that the new screw will be too tightly squeezed; the head of the screw will then have to be diminished in the same degree as the bridge has been drilled. It would have been far more simple to correct the defective part, that is, the screw; the drilling would have been avoided, as well as the trouble resulting therefrom.

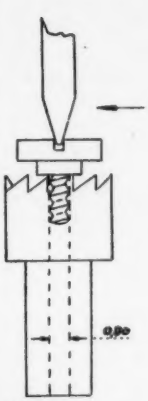

Fig.7

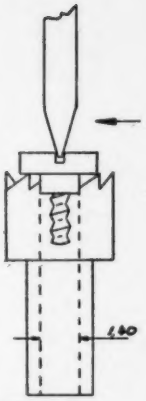

Fig.8

The best way of correcting the screw is to have a set of flat drills of 6 or 8 teeth, bored with holes ranging either from 5 to 5 hundredths or 10 to 10 hundredths.

Admitting that we have to retouch a screw, the diameter of its thread being 0.90mm., and the diameter of the shoulder being 1.40mm., should the part have too much play in height, the shoulder is too long, and it will be quite sufficient to introduce the threaded part in the hole of the corresponding drill, that is 0.90, and by means of a screw-driver, making the screw turn, thus drilling and shortening the shoulder (fig. 7).

If, on the contrary, the part has not sufficient play, this is due to the fact that the shoulder is too short; the head of the screw can be drilled by introducing the shoulder in the hole of the corresponding drill, that is 1.40, a few turns of the screw by means of the screw-driver and the desired result is obtained. Fig. 8. This very simple method has the advantage of being very neat and especially if, later on, the screw must be replaced, the difficulties mentoned in the case of filing the bridge will not be present.

The watch-maker who has not a set of these drills can adopt the following method with advantage, when shortening a shoulder.

The part being held in tongs and the tongs secured to the vice, the screw will be put in place; by means of a screw-driver, the screw will be turned, and by means of a hand-graver, held against the tongs, the shoulder will be shortened until it no longer touches the under-side of the part by at least 2-3 hundredths; this method (fig. 9) has the advantage of necessitating no special tools.

If, on the contrary, the shoulder is to be lengthened, and if the watchmaker has neither drills nor a small lathe with tongs, which would facilitate this operation, a bored and cut steel stem is used, the screw secured thereto, then by holding this stem against a filing-wood, it is turned between the thumb and the index of the left hand, as is done with a mandril when filing a pin, shortening below the head of the screw by means of a graver (fig 10).

When repairing a chronograph, it often happens that one finds a hammer or a detent which will not rise sufficiently; one must avoid forming a beak, that is the part of the detent or the hammer which comes into contact with the column-wheel; for, if this part be hammered, it becomes thinner and thinner and often no longer works with the column wheel except with a great deal of burr or thread, which quickly wear out, and the defect of the part which does not rise sufficiently will soon be apparent again.

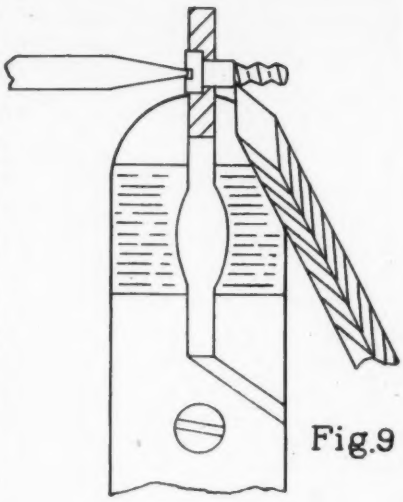

Fig.9

If, therefore, we have a chronograph hammer which does not rise sufficiently, we will not hammer in a (fig. 11) but in b, naturally below,

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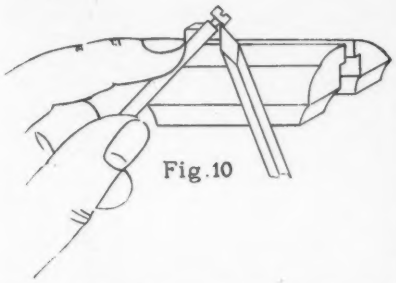

Fig.10

with a slightly curved steel hammer edge, not holding it flat, but inclined, in such a way as to touch the hammer only on side B; the chronograph hammer will then take the position indicated by the dotted line.

Useless to say that all careful watch makers will erase all traces of hammering.

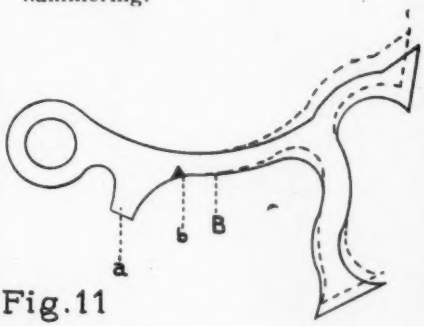

Fig.11

It may also happen that a bent intermediary wheel must be straightened; this correction should certainly not be exaggerated; the shoulder of the intermediary wheel being very short, the slightest correction will be noticed. In order to straighten the wheel, it is necessary to have the hole of the pivot of the bridge corresponding with that of the pivoted detent, and this can be done by hammering the bridge on the under-side, as we have seen in the case of the hammer; but another method which also gives very good results is the following: a small point is made, by means of a small riveting-tool, unpierced and rounded on the side next to the pivoting, and as a result the hole is carried over slightly on the side; the reamer is used in finishing, for the hole will have been slightly straightened, and the correction is then finished.

A chronograph hammer must always be of the right height, that is it must touch neither the under-side of the wheel nor the upper-side of the bridge. The hammer is generally screwed on a pipe which pivots on a stud which is in turn screwed to the barrel-bridge. In order to increase the height of the hammer, care should be taken not to bend it by hammering, which remains visible and causes a very bad impression; the stud will be slightly inclined by drilling the bridge with a drill a bit larger than the head of the stud; the drill being held in the position the stud is desired to have; it is also possible to file, slightly inclined, the under-side of the hammer at the place where the shoulder of the pipe comes to rest.

When there is very little retouching to be done in order to correct the height of the hammer, it can be slightly twisted, not by hammering —which leaves visible marks—but by tightening it in pliers at the barrel-staffs for example, near the pivoting-point, taking care to place a bit of paper between the hammer and the pliers; the extremity of the hammer is lowered or lifted, according to the desired position, exaggerating the latter a bit; if the hammer does not lend itself well to this method of procedure, it might be well to heat it over the flame of a spirit-lamp, taking care not to tarnish it; this facilitates the operation.

When the seconds hand does not hold securely enough on the pivot of the centre-wheel, the pipe should not be tightened, as is often done for ordinary seconds-hands, for that of chronograph receives a strong shock when the hand is set back to zero, thus necessitating a very careful adjustment. If the watch-maker has no spare hand to replace the one whose pipe does not hold sufficiently well, the pipe will be changed. In order to do this, after removing the pipe, a cylindrical brass stem slightly larger

than the hold of the hand when the pipe has removed is introduced in the pliers of a small lathe and an adjustment is made on which the hand will be driven well in; this adjustment will be shortened in such a way that it will not project more than 10 hundredths mm. approximately, then with a hammer with slightly convex sides, the hand is riveted on its pipe by crushing the surplus brass, without removing the whole from the lathe, and turning the pulley by hand slowly. Then the pipe is given the finishing touches by means of a hand-graver, it is bored a few hundredths smaller than the pivot of the centre-wheel, and finished on a smooth arbor staff, after which there only remains the adjustment.

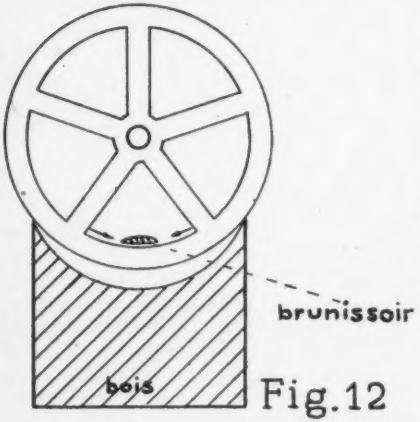

Fig.12

It may also happen that a wheel of the chronograph be not absolutely round; naturally, if possible, the best way is to change the defective wheel, if this not possible, here is the best way to proceed:

If the defect is caused by the fact that the wheel is flattened between two arms, a bit of filing-wood will be filed and a curve somewhat more accentuated than that of the wheel will be given to it; it will be passed in the interior of the rim of the wheel with a cross-file until the curve of the wheel is right (fig. 12).

If this defect is caused by the fact that the hole is not quite in the centre, the pipe of the wheel is removed, in the case of a crown-wheel, or the stem, in the case of a centre-wheel. Then a slab of brass is placed on the slide-rest, in which a groove is made and the wheel placed therein, without removing the slab from the slide-rest, and the hole of the wheel is rectified by means of a small graver affixed to the chariot; the hole will therefore be exactly in the centre according to the teeth; there only remains the pipe to be replaced, or the stem, in the crown or centre wheel respectively.

We hope that these few lines will be of use to young watchmakers.

By B. Humbert,
Horological School of Bienne

The name of Herff-Jones-Chicago Inc. has been changed to

MORGAN'S Inc.

Mr. G. H. Morgan, former president of Herff-Jones-Chicago, Inc., who is now serving with the armed forces in Europe, through his business associates in Chicago has acquired control of the manufacturing jewelry firm formerly known as Herff-Jones-Chicago, Inc. The new name is MORGAN'S INC., and the address remains the same. The organization, its address, its service, its personnel and the objectives of the business will remain the same as in years past. MORGAN'S Inc. will continue to represent Herff-Jones products in the Chicago area and all old or prospective customers of the former Herff-Jones-Chicago Company are asked to send their communications to

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A Message From U. H. A. A.'s New President

In accepting the office of National President of the United Horological Association of America, I do so with the realization of the seriousness of the situation which we face during the coming year.

Should the war end during this year, we face the problems connected with the return to Civilian life of all those craftsmen who gave up their profession to serve their country. This will call for a great deal of readjustment.

Then, there will be the added problem of dealing with those who received some small amount of training as watchmakers, who think they know enough to take a job as a watchmaker or go into business for themselves.

Should the war continue, we will be handicapped by the same conditions of transportation and lack of supplies. Anyway you look at it there will be many varied and complex problems to be ironed out.

We have just concluded our labors at the Annual Convention in Chicago. It is not my intentions nor my duty to give you here a complete report of this convention, but I do want to

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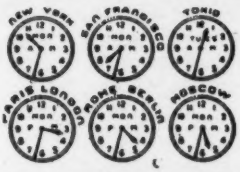

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make a few pointed remarks regarding it.

Your Officers, Directors, and Committeemen, worked hard and long to get everything running smoothly so the meetings could be conducted with the least confusion. We were extremely fortunate to have with us again, our revered first president, Mr. Frank Foegler, whose counsel and advice is always so welcome at all meetings. Mr. Foegler's experience and ability places him in one of those rare positions as one who is always expected to say the right thing at the right time. May he be with us a long time.

We have planned some worthy things for the coming year. It behooves every member to watch carefully all the issues of the magazine for the news as to what we are doing. Read all of every issue so as to be sure not to miss any of the important happenings.

Those states that are going to try for Legislation should have their bills and programs well advanced by now. We sincerely hope that all members keep in good standing and try to induce others to join. It is our desire to see a substantial increase in all states. The more members we have, the more good we can accomplish.

Like all other human beings your officers and directors make mistakes. We welcome just and constructive criticism at all times and as this Association is conducted for the benefit of the members, each and every one has a right to say what he thinks.

We are not worried about those members who say what is on their minds. It is the ones who keep silent that bother us because we are not psychic.

Let us hear from you. The more ideas we get, the more successful we will be. Let us go from here and make 1945 a record year.

JOHN J. NOOYEN,
President

U. H. A. A. Convention Report

Eleventh National Convention U. H. A. A. held in Chicago, Ill., October 29-31, 1944, at the Stevens Hotel, was conducted rapidly with exceptionally good representation despite transportation difficulties.

Officers Elected for 1944-1945

President—J. J. Nooyen....California
Vice-Pres.—John DeVogel..New York
Secy.-Treas.—Orville R. Hagans .....Colorado

Executive Committee—2 Years

W. H. Bright.....Massachusetts
T. O. Dilges.....Iowa

Executive Committee—1 Year

B. W. Heald.....Wisconsin
J. P. Sommer.....Pennsylvania

Resolution passed creating an Advisory Council to consist of Officers who have served for five years or more without interruption of Membership. The Council shall serve without compensation or privileges advanced to Executive Board and shall council with Executive Board without voice of vote.

The Resolution as accepted:

RESOLUTION NO. 1: Be it resolved: That the By-Laws be amended to provide for the creation of a National Advisory Council, to consist of all past National Officers and Founders of U. H. A. A. who have or shall have served on the National Executive Board for a period of five years, who remain as Members in good standing. That said Council shall meet with and council with the National Executive Board. That said Council shall hold annual meetings, choose it's own chairman and make such reports at the Annual General Convention as it's Members see fit.

The Council consists of the following Members who have served as indicated:

Frank Foegler
1933—Founder and President.
1934—President.
1935—President.

1936—President.
1937—Executive Board.
1938—Executive Board.
1939—Executive Board.

Orville R. Hagans

1933—Founder and Executive Secretary.
1934—Executive Secretary.
1935—Executive Secretary.
1936—Executive Secretary.
1937—Executive Secretary.
1938—Executive Secretary.
1939—Executive Secretary.
1940—Executive Secretary.
1941—Executive Secretary-Treasurer.
1942—Executive Secretary-Treasurer.
1943—Executive Secretary-Treasurer.
1944—Executive Secretary-Treasurer.

Elmer Schneider

1933—Founder and Treasurer.
1934—Treasurer.
1935—Treasurer.
1936—Treasurer.
1937—Treasurer.

B. W. Heald

1938—Vice-President.
1939—President.
1940—President.
1941—Executive Board.
1942—Executive Board.
1943—Executive Board.
1944—Executive Board.

J. P. Sommer

1937—Executive Board.
1938—Executive Board
1939—Vice-President.
1940—President.
1941—President.
1942—Executive Board.
1943—Executive Board.
1944—Executive Board.

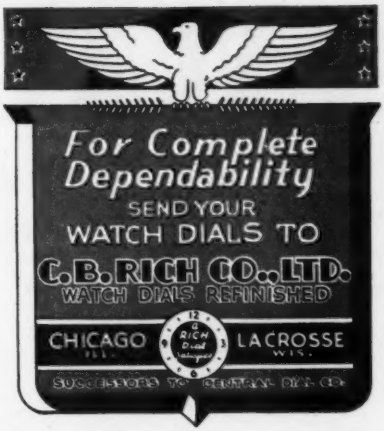
John DeVogel

1939—Executive Board.
1940—Executive Board.
1941—Executive Board.
1942—Vice-President.
1943—Vice-President.
1944—Vice-President.

William H. Bright

1939—Executive Board
1940—Vice-President.
1941—Vice-President.
1942—President.

(Continued on Page 37)



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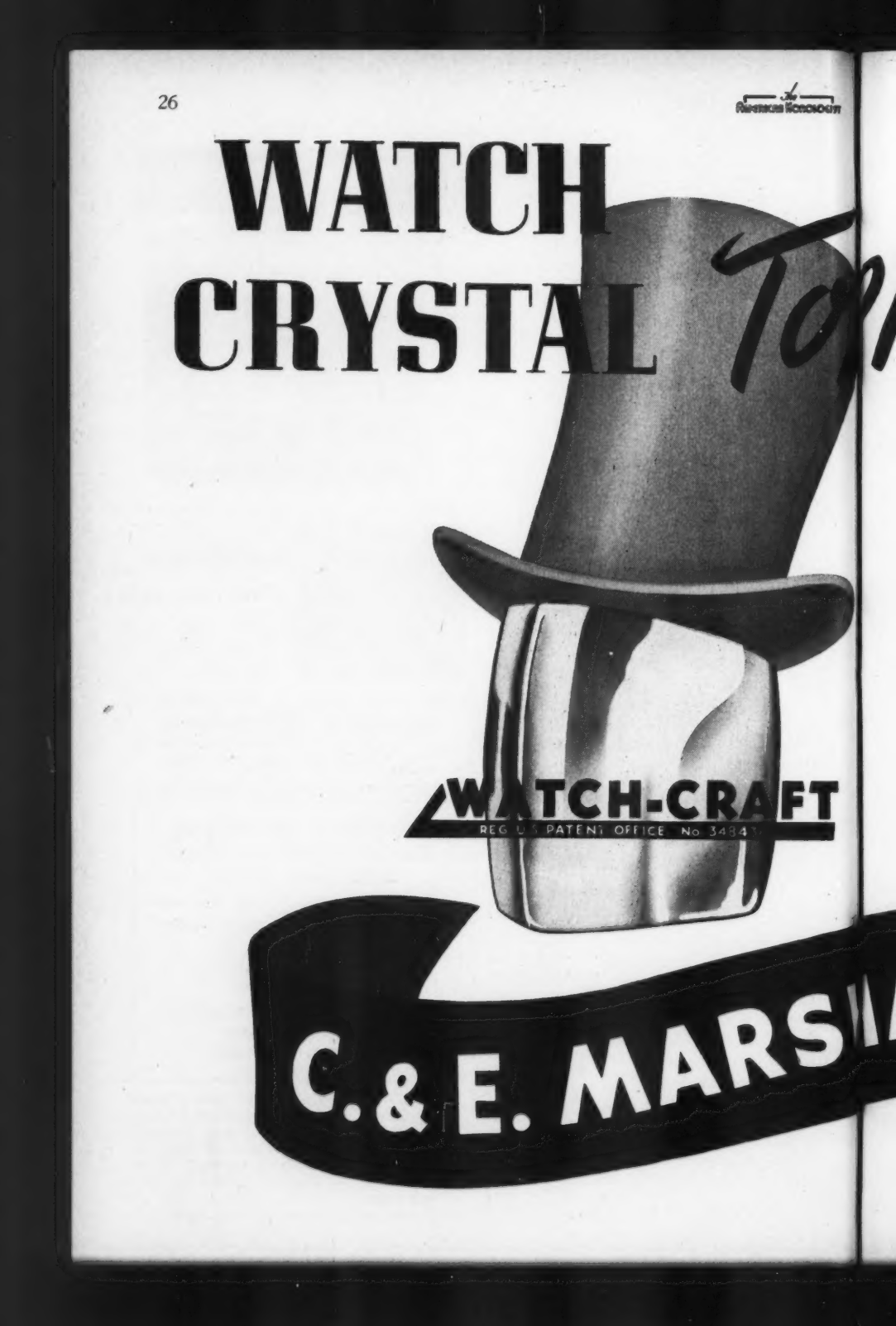
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Waterproof Watches

Talk given to Horological Society of New York by Jack Laufer, Technician of Louis Aisenstein & Bros. (Courtesy the Horologist's Loupe)

The number of waterproofs sold nowadays is so large that in the mere handling of them we watchmakers cannot help observing and learning a great deal about them. It is from my daily experience with waterproof watches that I have gathered some facts which I will submit.

Of course the idea of waterproofing watches grew out of necessity, and the first attempts at sealing watches were very crude. Long ago, deep sea-divers, whose diving suits were then not equipped to protect watches under water, used to dip their time pieces in paraffin before going down. This protection was, needless to say, only temporary, for as soon as the watch needed winding, the turning of the crown would crack the paraffin coating.

Manufacturers have for a long time been seeking to improve their watch cases. One of these improvements was the dust-proof crown. It wasn't until quite recently that the waterproof watch, as it exists today, was first made. It's rise to prominence was at first gradual but was accelerated by the present war.

Here let me pause to illustrate a parallel. Both wars have directly influenced the styles of mens' watches. The last war popularized wrist watches for men. Before that time the wearing of wrist watches by men was regarded as effeminate. This war sky-rocketed the demand for waterproof watches. Modern warfare calls for a modern watch —shock-resistant, anti-magnetic and waterproof—a watch that can go to the depths of the sea with our submarines, and fly with our superbombers into the heights of the substratosphere. It has leaped with our parachutist; it has landed on foreign beachheads with our amphibious troops; it has accompanied our daring commandos on raiding missions; it has been called upon to withstand all manner of punishment under varied conditions in all parts of the world, from the torrid jungle to the frozen waste of the north lands.

We might as well make up our minds that the waterproofs are here to stay. The post-war future for these watches is very promising. The general appearance and excellence of waterproof cases is improving daily and they will be stiff competition for the non-waterproof watches. So I say that we must see to it that we understand the waterproofs and attempt to service them as thoroughly as we can. By that I mean. we must regard the waterproof case as a separate item and do justice to it.

There are as many waterproofs as there are watch manufacturers. Just to mention a few—MIDO, ROLEX, MOVADO, ETERNA, LONGINE, BULOVA, GRUEN, etc., etc.

The whole trouble is that none of them can be opened with any but the right wrench, and what a nuisance that is. To properly service this great conglomeration of waterproof watches, the poor watchmaker needs an enormous variety of wrenches and blocks. There are several patented openers on the market, but they don't quite do the job. May be in time we will all collect the full assortment of these keys.

I had to get that gripe out of my system because whenever two or more watchmakers talk about waterproofs, that seems to be the first source of annoyance.

Now let us continue.—There are three points in the waterproof watch to which attention must be given. The crystal; the crown; and the cover. The crystal must be of fairly heavy plastic material and must be permanently sealed into the bezel. This, as you know, can best be done by specialists in that field. As far as my shop is concerned, we insert our own crystals, first heating the case. When the crystal is pressed

into the case, the soft rim of the plastic, coming in contact with the heated metal, will fuse and adhere more tightly. Ordinarily, unbreakable crystals sold in material houses will not do for waterproof cases. Watch importers are better equipped to handle the crystal replacements, and when a watchmaker finds it necessary to replace a crystal in a waterproof watch, it may be advisable for him to send the case to the importer, making sure to always include the back and crown, so that the entire case may be tested for water tightness. The importer, who is always anxious to safeguard the quality of his product, will most certainly see to it that the case receives the proper crystal.

Now let us take up the subject of waterproof crowns.—There are various types, some packed and some not packed. When there is no packing in the crown, there must be packing in the stem opening of the case. The materials used for this packing are cork, leather, plastics, rubber or fiber. It is of the utmost importance that the post of the crown fits into the neck of the case so tightly that not air or moisture can enter. It is not advisable to wash cases or crowns in a strong solution of cyanide or alcohol as this may deteriorate material used as packing. In cases where the neck of the crown does not fit tightly into the stem opening, the condition can be corrected by making a metal sheath to fit on the neck of the crown, thus enlarging it's diameter to completely fill the opening. Too much stress cannot be placed on the importance of a well fitting crown, as a poorly fitted crown has caused the ruin of many a movement.

Now let us proceed to the back cover of the case, where we find the gasket. Whatever the composition of the gasket, it is very important that it lie in the groove underneath the screw cover. It must form a seal between the case and it's cover. Without the presence of the gasket, the case cannot be air or moisture-proof, no matter how tightly the cover is screwed down. The reason I make this obvious statement is that I have, time and again, seen watches where the gasket was missing, probably due to the fact that the watchmaker had accidentally destroyed the gasket and thought the watch would be just as well off without it. There are certain gaskets made of a rubbery substance which has a tendency to stretch, and when replaced in the case are often found to be too large. Here one must avoid the mistake of trying to make this gasket fit. To remove a section and join the ends creates a weak spot at the point of joining, where water would get in under pressure, as I will soon demonstrate on my waterproof testing machine. To split and overlap the ends would create a high spot or bulge in the gasket throwing the rest of the circumference off balance. The only remedy for ill-fitting gaskets is a new, correct one. It is advisable to use grease or oil on rubber or plastic gaskets, but to leave metal gaskets dry.

When the watch has been repaired and is ready to be closed, the cover should be screwed down tightly, then opened once more to reassure oneself that the position of the gasket has not been altered by the pressure of the cover, as this often happens. In Automatic watches, care must be taken that the gasket does not stretch to the extent that it interferes with the free swinging of the hammer.

I have summed up a few features that make a watch waterproof. Most of the waterproof watches have a plastic crystal, a packing for the stem opening, and a gasket for the cover. Why then are not all waterproof watches waterproof? Here we come to the real difference between good and bad waterproof watches. The type of metal used has an important bearing on the excellence of

the case, but this is not all. The general construction of one type of case may be vastly superior to another. The higher standards of construction, design and close tolerance allowed for error in the good quality cases make all the difference in the world when it comes to practical waterproof performance. The waterproof testing machine may be familiar to some of you. To those who have never seen it in action, it will be an eye opener. No case that has the least fault in its water tightness can pass through this test without revealing its weak spots. I use this machine on all our waterproofs, and when I give the final okay on a watch, I do so in the full conviction that the watch will stand up to all manner of hazards.

I would like to say a few words on the subject of condensation. No doubt you have had watches brought in with the dial discolored and the hands rusty. This is due to the fact that the watch was subjected to a drop in temperature which caused the humidity inside the watch to condense. Humidity is the water vapor contained in the air.

A non-waterproof watch is not affected by fluctuations in atmospheric pressure and temperature because this type of watch breathes, due to the expansion and contraction of the air. Because of this, the change in temperature outside the case is the same as inside. The waterproof watch is airtight and the air contained in the case does not change. The amount of moisture sealed into the waterproof watch is dependent upon the percentage of humidity in the air at the time the watch was last closed. If the watch was closed in a humid atmosphere and is subsequently cooled, the humid air in the watch will liquify. This condensation takes place when the degree of coolness of the air outside the watch reaches a point at variance with the percentage of humidity in the watch. This point is known as the dew point. The "dew" point of the atmosphere is defined as that temperature to which the atmosphere must be lowered in order that the vapor it contains turns to water. We have noted that in cold weather, frost or water appears on the window. This is due to the fact that the outside of the window is colder than the inside of the house. If dew or frost does not collect on the window it indicates that the air in the house is very dry.

Fortunately condensation in watches does not frequently happen, and when it does, the damage is slight. We then only have to refinish the hands or furnish new ones. Most of the time only the hands are affected by condensation. This poses a question. Why do these tiny beads of water form under the crystal and not in any other part of the watch? I have a theory that may explain this.

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I am of the belief that the constant friction of the coat sleeve against the watch crystal creates static electricity. You may have noticed that when shuffling over a rug or carpet, the friction creates an electrical charge within the body, so that when we touch another person we feel a slight electric shock. Similarly, when the coat sleeve rubs against the watch crystal, the friction causes the crystal to become electrically charged, and imparts to it the property of attraction.

Another theory as to why condensation takes place under the crystal instead of in other parts of the watch, is that many unbreakable crystals are made of a material that has a water content in its composition, and this water is released by excessive heat.

The last few months I have been witnessing a most remarkable demonstration of gruelling tests made at the Electrical Testing Laboratory on our Mido watches. We gave them 29 watches and told them to do their worst. First they put six watches under a pressure test. These six watches were subjected to 175 pounds pressure, which is equivalent to 407 feet under water. They came out 100 per cent waterproof. Then they gave them a stiff test in altitude. They constructed a machine that produced the dry atmosphere found in the sub-stratosphere. And the watches remained waterproof at 40 and 50 thousand feet. The highest practical operating altitude of an aeroplane is only 35,000 feet. They also immersed six watches in water for about 800 hours. Three in fresh water and three in salt water, but no harm was done. There was a rain test, too. For over 800 hours, three watches were sprayed with water to simulate torrential rain. The results were the same as in all the other tests —100 per cent waterproof. There remained just one more test for extremes of heat and cold. The watches were put into an oven of 120 degrees of heat for 15 minute periods and immediately after into an ice-box cooled to 40 degrees below zero, and left there for 15 minutes. This was repeated ten times.

Well, after that there seemed to be no test tough enough to make these watches "give in" and admit water. We even had a machine built to wind up these watches to note whether long years of winding would wear out the packing in the stem opening. Three watches were wound up to the equivalent of 5½ to 34 years, and when they were given a waterproof pressure test, they stood up 100 per cent.

Editor's Note—The demonstration consisted of suspending the tested watch in a sealed glass incased cylinder half filled with water. The watch, by a special contrivance was kept above the water while air, through a foot pump was forced into the cylinder. If the watch was not sealed properly the compressed air would enter the watch through its faulty stem, crown, crystal or back. The watch was then immersed into the water and any leaks in the watch were visibly indicated by the air bubble escaping through the leaky part of the case. As soon as the air bubbles ceased the watches were removed from the water as water would enter after the cessation of the bubbles. Three watches were especially tested. One was in good order, one had the gasket neatly split, and the third had a poorly fitted crown. The last two revealed their weaknesses by the escaping air bubbles. Other watches tested indicated a variety of results.

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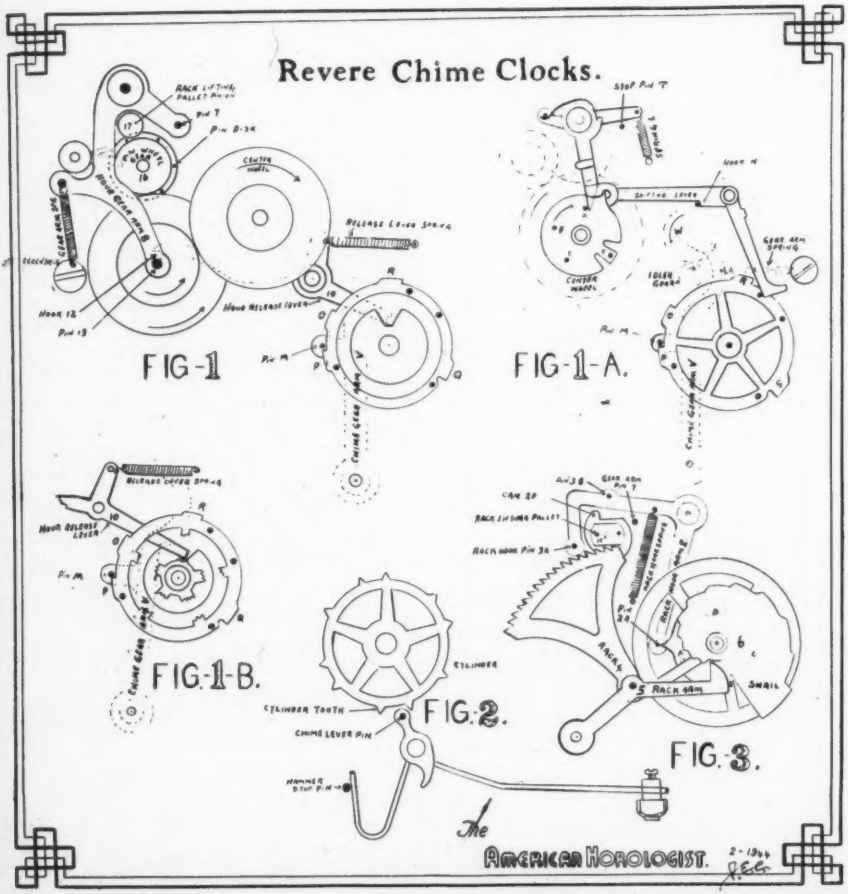
"A Few Pointers On The Revere Chime Clock"

By J. E. Coleman

The movement of the Revere mantel chime clock is powered by a "Telechron" synchronous electric motor and since this unit has been dealt with several times in various articles from time to time in the American Horologist, we shall omit further comment upon its maintenance and care in these pointers.

Like the orthodox, spring driven, Westminister, mantel chime clock the Revere has its time train in the center, the chime train upon the repairman's rigrt (as he faces the movement) and the hour strike train located on the left side. In the accompanying sketches Figure 1 represents the lay-out of the hour strike train. Figure 3 the hour counting mechanism, Figures 1-A and 1-B, the chime count arrangement and Figure 2 the hammer lay-out.

The chime is tripped by four pins set in a disc, mounted upon the minute pipe, marked A, B. C. & D. As the minute hand advances to the quarter hour, one of these pins comes in contact with the shifting lever; pushing it to the right permitting the hook "H" to drop over the pin of the



chiming gear arm. As soon as the shifting lever point drops off, the pin tension of the spring "L" pulls the shifting lever to the left and hook "H" pulls chiming gear arm "V" into mesh with the center wheel thereby making the motor drive the chime train forward. The hook "H" continues to hold the chime train "in gear" until it is lifted off by one of the chime count pins O. P. Q & R, this happens at an instant when one of the four projections of the chime count wheel is opposite the pin 'M" of the chime gear arm "V", thus the projection takes up the function of holding the chiming train in gear until the pin "M" rides off, releasing the gear arm "V" and the gear arm spring pulls the train out of mesh.

The hour striking is of the rack and snail type and like the chime train is driven from the center wheel; as the minute hand travels upward to XII a projecting point on the trip disc lifts pin 2A Figure 3 raising rack hook arm 2 thereby allowing the strike rack to fall upon the snail. Movement is now ready to strike the hour just as soon as the chiming of the fourth quarter is completed. Hour release lever 10, Fig. 1 & 1-B holds the strike back from meshing with the center wheel until the chiming train locks and drops out of gear then the tail piece of lever 10 drops into notch of hour strike release disc which is mounted on the chime count wheel; strike gear arm spring pulls strike train into mesh with the center wheel which drives it forward until the proper number of strokes according to the strike rack has been made. As rack hook pin 3-A (fig. 3) drops off the last tooth of the strike rack the rack hook arm falls against gear arm pin 7 forcing the strike train out of mesh with the center wheel. This action is actuated by the coiled spring marked "rack hook spring," this spring must be strong enough to throw the strike train out of mesh; if it shows weakness it may be adjusted by clipping off a coil or two. The other springs (1) chime gear

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arm spring, 2) release lever spring and strike gear arm springs are hooked to an eccentric and may be adjusted by turning that eccentric up or down with a screw driver.

The most frequent errors the repairman will likely meet with in these movements are: failure to chime, and, refusing to stop chiming. The stop pin "T" is actually covered with rubber; sometimes this dries up and cracks off thereby permitting the strike trip arm to drop much further back, then as the trip pins revolve they fail to catch it—a new rubber cushion on the stop pin will restore the trip arm to its regular stop position. The motive power for pulling the chime gear arm "V" into mesh with the center wheel is the spring "L". This may be broken, or, too weak to perform its duty. It must be strong enough to overcome the pull of chime gear arm spring, when it is released; it may be strengthened by clipping off one coil, or, the tension of the chime gear arm spring may be lessened by turning its eccentric anchor. If the tension of this spring is lessened make sure that enough is retained to pull the chime train out of mesh at the end of the chiming operation.

If your clock refuses to stop chiming; chime gear arm spring may be too weak to pull the arm out of mesh—tighten it by its eccentric anchor. The loose arm of the shifting lever that rides the pins O, P. Q & R may become tight in its joint and fail to fall back—test this point. If the clocks chiming train functions correctively, that is the mesh dropping in and out properly but it continues to strike a few notes of the quarter beyond the correct stopping note; this indicates that your chime cylinder is not set correctly. The chime count disc carrying pins O, P, Q & R, is attached by means of a set screw, this should be loosened, then revolve the cylinder until it has completed the last of the four quarters; see that the tooth upon the outside disc of the

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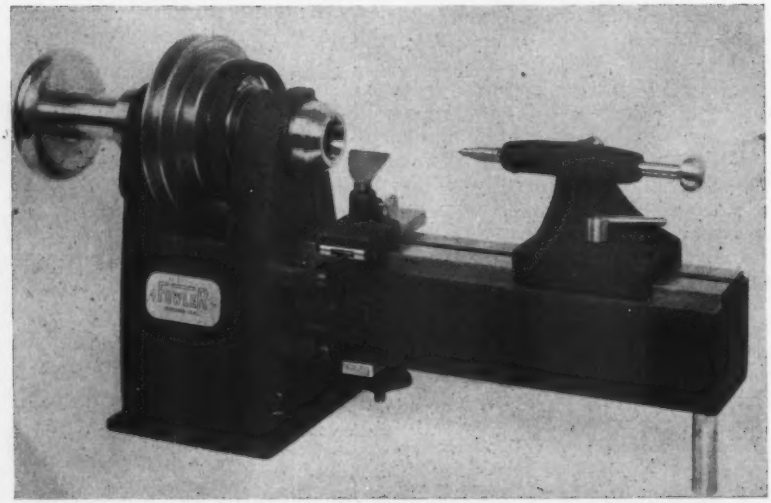

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cylinder nearest the chime lever flanges is about one-eighth inch away from hammer lift pin—Figure 2. Turn chime count disc to position where the pin "M" on chime gear arm "V" has just dropped off projection opposite pin "P"—you now have your chime cylinder and your chime count disc both in their proper position for locking at the end of the fourth quarter chime and may tighten the disc set screw.

If the clock stops while chiming: check the tension of spring 'L" or, look for a bind in the gearing. Should the clock fail to strike; check the hour release lever 10, make sure it is free, also the tension of the gear arm spring on hour gear arm 8. All the adjustments you are accustomed to making on spring driven, rack strike trains, such as having the gathering pallet catch squarely between the teeth of the rack, the rack lock pin rest correctly between rack teeth and etc. will apply to this train.

Sometimes these clocks are brought in because they make a buzzing noise, these noises are usually caused by the motor becoming a little loose, or some of the laminations working loose. Tighten the two big brass stud screws that hold the motor to the frame. If this does not stop the buzz take the motor unit off and tap the laminations on the side to tighten them up—it may be necessary to wedge a piece of peg-wood or cardboard between the coil and laminations to overcome this noise.

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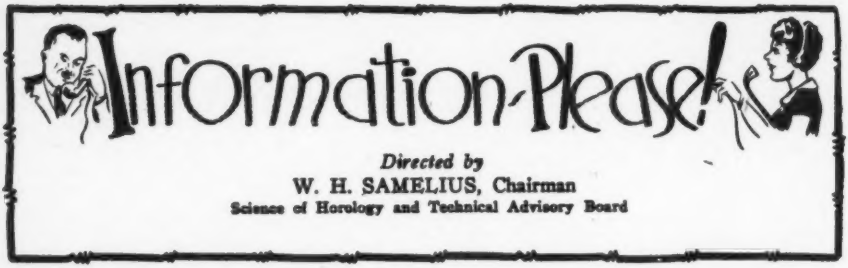

Directed by
W. H. SAMELIUS, Chairman
Science of Horology and Technical Advisory Board

CNW: Which moves the fastest, a locomotive drive wheel or the balance wheel of the watch?

Ans: The balance wheel of the watch makes 1¼ turns per vibration and as the balance makes 18,000 vibrations per hour, it will then make 18,000x1.25 or 22,500 revolutions per hour. A locomotive wheel 6 feet in diameter will cover 18.8496 feet per revolution. This is equal to 280.1 revolutions per mile. If the locomotive is traveling at a speed of 60 miles per hour, the drive wheel will then make 60x280.1, or approximately 16,806 revolutions per hour.

SPP:A few of the boys recently had a discussion regarding the poising of the balance with or without the roller and jewel.

Ans: When poising the balance, the roller and jewel is affixed to the balance staff.

EH: What would be the cause of the mainspring cover not wanting to stay in the barrel as well as having the difficulty of putting it in place? What is the proper procedure to get a barrel cover in perfect center. I also have a cuckoo clock that sometimes misses the 11 o'clock strike and only strikes 10. Would appreciate some information how to adjust it properly, seeing that everything else is in perfect order.

Ans: Referring to the first question, the snap edge of your barrel is undoubtedly worn out. To recut the snap, the barrel may be mounted in a wheel chuck and with turning tool, carefully undercut the snap edge. Use precaution not to enlarge the diameter of opening more than necessary. The edge of the cover can then be slightly stretched with light hammer blows around the edge of the cover, laying the cover on a flat anvil and striking the cover with the top side down. This will cause under edge of cover to spread and quite often create a tapered edge that will snap into the undercut of the barrel. If hammering is carefully done, chances are that the cover will remain true in the round.

To restore barrel cover to perfect center, first see that snap fit is proper, then bush the hole. Naturally, the hole would have to be enlarged for the bushing. Cement barrel to cement chuck, trueing it by the hole, being careful that the hole runs perfectly true. Snap cover to proper place, carefully spot a center, drill a small hole and with a slide rest, bore hole to proper size. By these steps, the hole in the barrel and the hole in the cover will be upright so that barrel will run true in the flat. This work must be carefully done, especially on thin model watches.

Referring to cuckoo clock. You say everything is in perfect order, however the writer would advise you to check over the striking mechanism when you will possibly find a bent tooth in the count wheel that will not allow the count wire to drop at the proper instant. It probably drops too soon, causing the clock to strike ten when it should carry over for another count. It might also be considerable side shake in the count wire arbor which might also help to agitate miscounting.

WHW: How may oil be held

around balance pivots on balances which go into flat jewels ,providing there is no capillary attraction.

Ans: The writer is not aware of any positive way. A few years ago there was a chemical on the market that was applied to jewels with the claim that the oil would not run off the jewels, this was known as epilane. Some factories adopted this method, likewise some clock companies. Of late years, the writer understands this method was discontinued and the only suggestion we can make is to see that hole jewels and cap jewels lie absolutely parallel with a minimum of space for oil. By carefully oiling the watch so there will be a very small column of oil between the jewels and around the pivots, the oil will last a considerable time, however, where too much oil is used, the attraction of spreading is greater and in a very short time, the oil will creep to the edge of the jewel setting and down into the bezel or between the cap jewel and balance hole setting where the capillary attraction is the greatest, consequently, leaving the pivots dry. Oil of proper viscosity is also a factor which will cause it to cling to the pivots in a small column that will not break.

U. H. A. A. CONVENTION REPORT

(Continued from Page 24)

1943—President.

1944—Executive Board

Resolution passed to abolish the "B" Plan and to establish fixed dues, thereby enabling National to function as it should without curtailing activity, reducing operative expenses, become solvent and accumulate unrestrained reserves.

It is now planned to contact all Affiliates annually by sending National President on an annual tour of the country, thereby stimulating interest by giving first-hand information.

Also a quarterly bulletin will be issued to all Guilds and States affiliated, thereby enabling each unit to know of those things previously unable to publish.

The Resolution was passed 100 per cent by all Delegates and visitors. A second call of unanimous expression was made in order to place the responsibility of action upon all present, avoiding any retraction or misunderstanding.

RESOLUTION NO. 2: Be it resolved: That the By-Laws be amended by striking therefrom all sections pertaining to and referring to the so-called "B" Plan. Further, that the Annual dues of U. H. A. A. be established and determined to be $4.00 per year, disbursed as follows: $1.00 Publication Tax. $1.00 Business Promotion. $2.00 General Fund. Be it further resolved: That of the monies now in the "B" Plan Trust Funds—Funds in Trusts No. 1 and No. 2 be refunded in full to the Affiliated States from whom collected, and that funds from Non-Affiliated States and Members-at-Large be placed in the General Fund. And, further, that the balance remaining in Trust No. 3 be placed in the General Fund.

This action takes U. H. A. A. out of the red, with a cash balance on hand. The new dues will be disbursed as follows: $1.00 Publication Tax. $1.00 Business Promotion. $2.00 General Fund allowing a general fund to be built up of from $2,000 to $2,200 or more annually, which can be used to do those things which in the past were impossible without seeking financial aid. Thus National will be financially independent, relying upon no outside aid to protect and advance the best interest of the Profession.

1945 promises to be a most successful year of activity and accomplishment.

Plan now for the meeting of the National President in 1945.

$1500.00 Contest
What Bench Problems?

Readers want to know what bench problems you have solved. What tools you have devised in order to make a particular job easier, etc.

In order to encourage you to send them in, a $1500.00 contest has been arranged which will be conducted over a 12 months period. And, to make it more interesting there shall be 3 monthly prizes; winners of such NOT to be excluded in final prizes.

Judges are:

W. H. Samelius, Elgin Watchmakers College.

J. J. Bowman, Bowman Technical School.

George Wilde, Bradley Polytechnic Institute.

J. E. Coleman, Nashville, Tennessee.

J. J. Nooyen, Encinitas, California.

Frank Foegler, Cincinnati, Ohio.

H. R. Pedrick, Collingswood, New Jersey.

Emanuel Seibel, American Academy of Horology.

The Judges' decision shall be final.

How It Works

As articles are received, true copies will be made and each entry issued a number which shall appear with article so as to avoid any possibility of favoritism by Judges. All names shall appear at close of contest.

Prizes Will Be As Follows

First Prize—$50.00 cash.

Second—$25.00 cash.

Third—Aget jawed Poising tool.

Fourth and Fifth Prizes—A $10.00 tool.

5 Prizes—Payment of State and National dues for one year. (If member or equivalent.)

25 Prizes—National dues for a year. (If member or equivalent.)

12 Prizes—Guild dues for one year. (If member or equivalent.)

300 Prizes—One year subscription to THE AMERICAN HOROLOGIST.

500 Prizes—Technical book value $1.00.

(The above prizes to be issued at close of contest.)

Monthly Prizes

First Prize—Any Horological book not in excess of $5.00.

Second Prize—Year subscription to THE AMERICAN HOROLOGIST.

Third Prize—Year subscription to THE AMERICAN HOROLOGIST.

All articles received naturally cannot be published each month, but the Judges shall receive copies of all and select those to be published and make their decision on best articles.

Articles shall appear at discretion of Judges' Chairman and Editor. All articles become property of THE AMERICAN HOROLOGIST and shall not be returned.

Now is the time to act. Send in one or a dozen articles with or without drawings; practical bench ideas, experiences, tools or unusual creations. Let's go! 838 prizes more may be added if interest demands.

When sending articles in mark them for contest or they will not be included.

Wisconsin Trains Veterans

By B. W. Heald

Though formulative plans for the training of our veterans in Watchmaking have been discussed in many sections of the United States, the Wisconsin Board of Examiners in Watchmaking announces that its plans have gone beyond the contemplative stage and are in actual operation at the present time.

Five veterans of World War II are already studying under this program, receiving good training which is assured by the careful supervision of the Watchmakers Board. Before receiving a license to practice in Wisconsin, all trainees must successfully pass the Board examination.

Early in 1944, after studying the possibilities and needs for rehabilitation, the Wisconsin Board arranged a meeting with Veterans' Administration training and advisory officers, rehabilitation experts and certified watchmaking instructors. Only

after considerable discussion as to correct procedure, and with much foresighted planning, a course of study was laid out over which the State Watchmakers Board acts in an advisory and supervisory capacity.

Veterans who are interested in watchmaking are interviewed and given scientific dexterity and aptitude tests by occupational counsellors of the Veterans Administration and by officers of the Watchmakers Board. The results of these oral and mechanical trials give the examining officers an insight into the man's ability at the present, and also a conglomerate view as to his future potentialities as evidenced in the tests. If it is determined that watchmaking appears to be a suitable craft for the veteran to pursue toward an envisaged means of livelihood, he is promptly sent to the department of watchmaking in the Milwaukee Vocational School for complete training. This department, under the supervision of Mr. H. C. Schattschneider and Mr. W. TeRonde, is an accredited school listed with the United Horological Association of America.

Following this specified program of training, the veteran is for the first sixty days, considered on probation, at the end of which the instructors report to the Veterans Administration and the State Watchmakers Board as to whether the man is to be given further training or not since it would be very unwise and also very costly to continue such detailed training if the veteran is unadapted for the trade.

The planned program is very flexible since no undue pressure is exerted on the trainee, and thus he can progress as rapidly as his ability and prior experience warrant. Neither is he retarded to hold him at an average class level, if his natural ability advances him beyond this same average. In other words, he is taught as an individual rather than as a part of a unit.

If, after his preliminary training, the trainee so desires, the Watchmakers Board will place him in actual employment as an apprentice and will supervise his job and part-time school training. Through this method he gains much shop bench experience, coordinating his newly-learned theory with actual shop practice. This has proven to be a very successful method of watchmaker education, both from the student's standpoint as well as his employer's.

Veteran trainees receive upwards of $80.00 per month compensation, all tuition costs and an allowance for watchmaking tools.

The success of this program is assured by the experience of the Watchmakers Board in supervising training and the experience of the Vocational School and the Veterans Administration in rehabilitation.

Non-Jeweled Watches

A limited number of non-jeweled wrist watches with second hands, designed especially for nurses, are again available through regular retail outlets, the War Production Board said today.

Non-jeweled watch manufacturers are heavily engaged in the manufacture of highly important war items and can make these watches only when the work can be fitted into their war program. They have been able to produce only about 90,000 nurses' watches during the past year and a half.

Some of these watches have already been distributed directly to nurses in training at hospitals. The quantity remaining for distribution through normal retail channels is small.

Jewel Bearing Contract Cancellation

Large producers of jewel bearings have not had contract cancellations, although several smaller producers have been cut back, the War Produc-

tion Board reported today.

Large producers include the Hamilton Watch Co., Lancaster, Pa.; Elgin National Watch Co., Elgin, Ill.; Bulova Watch Co., Woodside, Long Island, N. Y.

Recommendations for contract cancellations to the Defense Supplies Corporation may be forthcoming in the near future if jewel bearings continue to be made available from normal sources in Switzerland in sufficient quantities to make domestic production impractical, WPB said.

When critical war needs demanded jewel bearings for the time-keeping devices for aircraft and ships, compasses and other precision instruments, American producers met requirements admirably, WPB officials said. However, as the war's progress makes importation of jewel bearings from Switzerland possible, government claimant agencies are trying to meet requirements with foreign products which are about 20 per cent less expensive.

Some of the smaller producers, such as Adolph Miller Co., of Providence, R. I., and Louis Levin & Son, Inc., of Los Angeles, Calif., have already been notified of contract cancellations.

The Elgin National Watch Co. and the John Worley Jewel Co., Waltham, Mass., have been tentatively advised of contract cancellations.

U. S. Time Announces Timex*

The United States Time Corporation, peacetime makers of the famous Ingersoll line of clocks and watches, announces a revolutionary principle in clock manufacture—TIMEX*—to be applied to Ingersoll clocks which U. S. Time will put into distribution in the near future.

The TIMEX* principle, exclusive with Ingersoll, is a technical wartime triumph resulting from the past four years in which all Ingersoll facilities in machinery—time and manpower—and scientific research have been devoted to the development of and manufacture of precision instruments in mass production for our armed forces.

New Ingersoll clocks with the TIMEX* heart will be virtually soundless—clocks with a "tick" that's barely a whisper. They will be dependable to a degree never believed possible in pre-war days—tested to 99.93 per cent accuracy—constructed, thanks to the Timex* heart, to dispel the cause of most common clock failures. And the new Ingersoll clocks will be designed in keeping with new and modern times to come.

A massive newspaper advertising schedule, run in the month of November, introduced the TIMEX* principle to the public in advance of the release of merchandise. Ads were run in all cities in the United States, 25,000 and over in population, provid-

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ing a total of 150,000,000 consumer messages on TIMEX*. Copy itself is unique and striking—a combination of cartoon and scientific treatment to impel maximum interest and readership—and stressing Ingersoll clocks with the TIMEX* HEART—WELL WORTH WAITING FOR.

Watchmaking School Conducted by the New York City Board of Education

This school, the Brooklyn High School for Specialty Trades, is a regular part of the vocational school system of the New York City Board of Education. It was started about six years ago after the Trade Advisory Board of the Board of Education and the various trade groups of the jewelry industry met and after a number of meetings, decided upon the advisability of such a venture.

The course in watch and clock mechanics as it is called, runs for four years, one year, the beginning one, is a try-out period and consists mainly of general mechanics. The second, third and fourth years are devoted mainly to the study of the skills and knowledges of the trade. In the vocational school setup such as we have in New York City, the student spends six hours daily in the trade high school. Three hours out of the six are spent in the shop where he practices the practical part of the trade he is to learn. The remaining three hours are spent in pursuit of the general and related academic studies such as English, the social sciences, history, music, health education and the related sciences, related mathematics and one period a day of trade or technical trade information. This also includes the study of trade drafting and blue print reading.

The age of the student as he enters the school, coming straight from the elementary public or parochial school or from the Junior High School, is about fourteen and fifteen years of age. In the shop where he starts to learn the trade of watch and clock repairing, he begins by learning how to file and make the small tools that he will use in his trade. A little later but still in his first half year, he is taught how to dismantle and overhaul cheap alarm clocks and the pocket type clocks. As he progresses through the course, his hand skills are further developed with the making of small useful interesting tools and appliances. He is soon then introduced to the lathe where he learns how to turn large model size balance staffs. He is brought down to the finer work on pocket watches and then the smaller watches making repairs of a lighter nature.

By the time he is in his fifth term, the sixteen year old boy is replacing balance staffs, closing or rebushing worn holes in clocks, overhauling French clocks and making repairs of most types to both spring wound clocks and electric clocks. A little later he can make stems, larger type staffs that fit and work and repivot clock pinions with his own hand made drills. He can temper and anneal the various small steel pieces. He can make his own screws and temper and

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polish them if need be. He is also encouraged to overhaul watches of wrist size.

In his senior or final year, he can vibrate his own hairsprings, collet and stud them and turn or raise the breguet. He can set jewels, poise and true balances quite well and by the time he is ready to graduate he can set up an escapement with efficiency.

All this sounds very good and maybe amazing to someone who has not had the experience of seeing young men like these finish three full years of schooling. Sometimes you might get a particularly gifted youngster who will even do better than your fondest expectations and then again there are youngsters who you wish would have studied plumbing instead, but they stay on nevertheless.

Graduates from the school find ready placement with importers, retail shops, factories such as Bulova and Benrus and others are employed by trade shops. Graduates have found employment with Tiffany and Marcus and Co. and other Fifth Avenue Shops. Seniors in the past have taken the H.I.A. Junior watchmaking examinations and have passed this test with very high grades yet none had reached their eighteenth birthday. At present, most of the boys are in the armed services as staff watchmakers, bombsight repairmen and aircraft instrument mechanics.

The school situated in New York City is at an advantage since this great center of watchmaking offers unusual after school opportunities for the students to augment their training with after school apprenticeship with the many repair shops around town. The classes are closely supervised both by the school authorities and by the trade group representatives. The Horological Society of New York works in close cooperation with the educational committees in recommending changes in curriculm, added equipment, instructional facilities, visits to industry, placement and planning. An advisory committee made up of representatives of the watch manufacturing industry.

watch importers and the repairer or retail shops meet regularly to advise and formulate new ideas in the schools development and progress.

The classes accommodate thirty pupils although registration is kept generally below twenty two. There are two groups of this number. The first group made up of boys who have had one year's training in the watch shop come in at 8:00 A. M. together with the other advanced students, junior and seniors, and stay in shop until 11:00 A. M. then go to lunch for forty five mintues after which they follow their regular academic studies. Later the beginners come into the same shop and stay for a similar period. Until this time these younger students have been in the classrooms. There is but one teacher for all these boys, but it is not so hard on the instructor as it seems, Systemized instruction and the use of instruction sheets make for better instruction. The students keep elaborate notebooks and their notes make up part of their marks. The instructor rotates about the room giving individual instruction where needed. The students stay at their own benches, each equipped with light, lathe and bench vise. A tools monitor rotates around the room giving and collecting tools or materials as needed. Although the students are encouraged to purchase and own their own tools, some items, such as the staking sets, vibrating tools, poising tools and balance calipers are supplied in class. A rigid system of inventory and tool checks keep losses to a practically negligable amount. Certain tools suffer badly.

Students who wish to take up this trade are for the most part permitted to try out for it without the so-called aptitude testing. A month or so is all that is needed to determine whether a boy will make it' or not. Strangely, those boys who make neat mechanical drawings turn out to be better watchmakers than those who do not. Many students are the sons of watchmakers, some of these boys will be third and fourth generation horologists.

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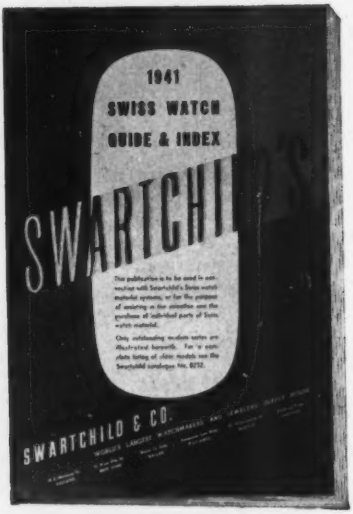

This new 24 page book, showing the latest and most essential Swiss movements, with manufacturers trade marks, mainspring dimensions, and Series Numbers for ordering parts was compiled in spite of wartime conditions after innumerable watchmakers requested it. It is an invaluable aid to watch repairing and was recently mailed, with the compliments of Swartchild & Co. to watchmakers and Jewelers all over the country.

To Produce Telechron Alarm Clocks

ASHLAND, Mass.—The Warren Telechron Company will start manufacturing electric alarm clocks under its own name on November 1, immediately following the dissolution of the brief pooling arrangement under which Telechron made unbranded "war alarm" clocks for much of the industry.

In making this announcement today, Roy W. Johnson, general sales manager, cautioned the public and the trade not to become overly optimistic for, although the company will turn out several thousand clocks a day, a survey by the War Production Board several months ago disclosed that there is a demand for 12,500,000 alarm clocks. The first model will retail at $4.95, the OPA ceiling price.

Warren Telechron Company will continue production of war equipment, but as war contracts let up following the end of the European war it will increase its alarm clock production and resume the production of other electric household clocks, Mr. Johnson said.

Horological Society of New York

The Horological Society of New York, at its meeting held on October 2, 1944, discussed the various phases of "watch guarantees."

Henry B. Fried executive secretary, announced that Henry Paulson & Co., of Chicago and Peoples Watch Repair Co. of Toledo had become associate members, taking place beside Tiffany, Wittnauer and others. Mr. Fried also announced that many technical lectures were planned for the immediate future. Among these will be a panel lecture made up of authorities on various types of watchmaker equipment and tools. Other talks include a lecture on Horological literature and chronometer making as well as motion sound pictures of watchmaking and watchmaking history.

Among those voicing varied opinions on "Watch guarantees" were Leon Mayer of Peoples Watch Repair Co., Mr. S. Roth of Roth Bros., Mr. Horne of Gimbels, Mr. O'Shaughnessy, former president of the society, Mr. Strommer of the Sandsteel Mainspring Co. The discussion on guarantees centered on the length of a guarantee, its extent, a type of paid insurance, no guarantee at all, a higher charge for permanent or semi-

permanent guarantee and other modified forms of guarantees. Mr. Klein suggested that further study be made of this topic for a later report.

The technical portion of the evening was devoted to a talk on fusee cutting and making as concerned with a phase of chronometer making. Mr. Goldstein who gave this talk showed how the tests were conducted for equality of pull and construction. He also demonstrated an old fusee cutting machine. Refreshments were served during the evening to a large audience.

Milwaukee District Guild

The Milwaukee District Guild of the Wisconsin Watchmaker's Association held their first fall meeting in the Banquet room of the Red Arrow Club, Milwaukee. The meeting was in the form of a large social gathering. Watchmaker members and their wives and sweethearts attended along with the invited guests of the evening. The entertainment committee along with the Advisory Board of the Guild made complete arrangements for the party and dinners for 99 people were served. Refreshments of beer and soda were served throughout the evening. Dancing was to the music of Ed Thurow's orchestra.

Mr. Anderson, President, the only speaker of the evening, gave a short talk explaining the purpose of the event. The dinner had been arranged for the purpose of giving the members of the District Guild a chance to have a good time, and to invite the 21 member companies of the Milwaukee Wholesale Jewelers Association as a gester of appreciation for the favors they had extended to the watchmakers in the past. Also invited were the new watchmakers who during the year of 1944 had graduated from the Milwaukee Vocational School and then successfully passed the State examination for Watchmaking.

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Elgin On The Air

For the third consecutive year, the Elgin National Watch Company has bought a two-hour time block (4:00 to 6:00 p. m. EWT) on the full Columbia network Nov. 23, Thanksgiving Day, to present a variety program with headline stars of stage, screen and radio, designed as a salute to men and women in the armed services and their families at home.

As in previous years, the program will be short-waved to the fighting fronts. A similar show is planned for Christmas Day.

While some of the talent remains to be signed, many stars already have been lined up for the Thanksgiving show, which will be carried by 141 stations. Don Ameche will be master-of-ceremonies. Some of the comedy assignments will be handled by Edgar Bergen and Charlie McCarthy, the team of Moore and Durante, Falstaff Openshaw, "the poor man's poet laureate," and Ed Gardner, the "Archie" of Duffy's Tavern.

To add a nostalgic note, Elsie Janis beloved entertainer of American troops in France during the first World War, will revive some of the memories of that period with her songs.

Featured prominently in the program will be Spike Jones (of "Der Fuehrer's Face" fame) and his City Slickers, the Charioteers and Ken Carpenter. Lou Silvers orchestra will provide the musical interludes.

Other vocal spots will be filled by Frances Langford, who for months has been filling a heavy entertainment schedule in various war theaters; Lina Romay, specialist in Latin rhythms, and Susanna Foster, popular yonug coloratura soprano of the films.

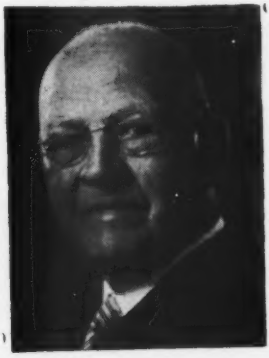
There will be a dramatization of the type of original facts heard Sunday nights (10:30 p. m. EWT over the Blue Network) in "Keep up with the World," Elgin's current radio program. Written and prepared by Freling Foster, "Keep up with the World" is the radio counterpart of his weekly magazine feature of the same title in Colliers Magazine.

Conceived as programs which would unite servicemen abroad in spirit with their families at home at holiday time, the two-hour Thanksgiving and Christmas shows have benefited Elgin in a number of ways. They have won new friends each year for the company, at the same time maintaining dealer good-will and

consumer franchise against the day when manufacture of watches for the domestic market can be resumed.

William Bausch Dies at 83; Headed Optical Firm Board

William Bausch, chairman of the board of Bausch & Lomb Optical Company, and last surviving son of John Jacob Bausch, founder of the firm, died at his summer home near Rochester, New York, October 19, 1944.



Mr. Bausch, who celebrated his 83rd birthday last March 25, was a familiar and active figure in the research laboratories of the optical firm until a few days before his death. His passing followed closely the death in July of his brother, Dr. Edward Bausch, formerly chairman of the board of the company.

Known to hundreds of employees as "Uncle Billy," Mr. Bausch had been with the company for over 69 years, and was widely renowned for his developments of optical glass, which grew out of experiments he began in 1903. He was responsible for the founding of the optical glass making plant at the Bausch & Lomb factory in 1915. It was this glass plant, the first of its kind in America, which saved the country from chaos when optical glass was no longer available from European sources in the first World War.

During World War I some 425,000 pounds of optical glass were produced and incorporated in the rangefinders and other precision instruments produced by Bausch & Lomb for the military forces.

Born March 25, 1861, within a stone's throw of the plant on St. Paul Street, Mr. Bausch was educated in Rochester public schools, Hale's Preparatory School, and the Collegiate Institute. He began his long career with the company in 1875, sharing with his brothers, Edward and Henry, in the expansion of the company's eyeglass business and the introduction of a line of scientific instruments beginning with the microscope.

He is survived by a sister, Mrs. William A. E. Drescher, and several nieces and nephews.

The Watch Industry Loses A Great Horologist

Mr. Sigfrid Strommer, Executive Vice-President and General Manager of the Watch-Motor Mainspring Co., Inc., 145 Hudson Street, New York, died suddenly at his home on October

3. His demise was a shock to everyone. He was born in Sundwall, Sweden, on January 18, 1886.

Mr. Strommer had a long and in-

teresting career and gained a host of friends all over the world. His travels took him to the far corners of the Globe. For a number of years he was European Sales Representative for Waltham Watch Company. While in Europe he had access to the leading Horological centers where he gained much knowledge and information which he later used to good advantage. Mr. Sigfrid Strommer had the mental faculties to get at the root of things quickly.

Another interesting position he held was in Shanghai, China. In June, 1923, he was appointed manager of the retail department of Heacock & Cheek. He served in that capacity until 1927 when he decided to return to the United States.

In New York in 1929 he joined the staff of Watchmakers of Black, Starr, Frost & Gorham as master watchmaker. He was with that firm five years until he resigned to join the Watch-Motor Mainspring Co., Inc. He was elected Vice-President and acted as its General Manager until his death.

Generally throughout the trade he was reputed to be one of the best Horologists in the country and he will be missed by many.

He was an active member of the American Horological Society for a number of years.

The watch trade in general will miss Mr. Strommer because he knew their problems so well. It was his sole aim and ambition to produce watch parts that would be a credit to the American Watch Industry. This was the goal towards which he guided the Watch-Motor Mainspring Co., Inc. The officers of the company are pledged to continue and further the achievements of Mr. Sigfrid Strommer.

He is survived by a sister, Ingeborg Hallback, who lives in Helsinke, Finland.

Funeral Services took place at Chas. P. Nagel's Funeral Chapel, New York and Interment at Woodlawn Cemetery, New York.

Hamilton Watch Company Wins National Safety Award

The fuse loading plant of the Hamilton Watch Company, Lancaster, Pa., has been awarded first place in Division 2 of the Army Service Force Ordnance Explosive Safety Contest with a perfect "no accident" record for the entire period of the contest. All war plants manufacturing or handling explosives in connection with their war products participated in the contest. The presentation took place on Oct. 4, 1944, in Chicago at the La Salle Hotel and was attended by several thousand army leaders and representatives of ordnance plants throughout the country.

The contest was divided into twelve divisions in which the various plants were classified according to the type of explosives, ammunition, or chemicals which they manufacture or handle. Division 2, in which Hamilton was classified included war plants engaged in the manufacture or packing of time fuses or detonater loadings.

Hamilton was represented at the presentation ceremony by Walter F. Breen, Maintenance Engineer; John H. Foose, Gen. Foreman of Time Fuse Manufacturing Division; and J. L. Keenan, Chicago Sales Manager.

Jarene Known To Thousands of Watchmakers, Makes Possible The Salvage of Parts

The need for parts, so difficult to obtain today, is made easier by salvaging good and usable parts locked up in rusted watches. Every watchmaker has plenty of these.

The problem of getting the parts out of the rusted watches has been solved by JARENE a liquid formulation developed by U. S. Detergents Co., Inc., of 315 East 91st St., New York City.

Several thousand watchmakers are now using it to their profit. A ½ pint costs $3.50 delivered postpaid any-

where in the United States, and since it is used over and over again a ½ pint serves for a very long time.

Entire watches are actually immersed in JARENE and as the rust is dissolved, the parts are easily removed.

Unlike the run of the mill rust removers, the manufacture of JARENE claims that the solution does not cause any damage and offers to return the cost if dissatisfied. Thousands of bottles of this remarkable product have been sold, with a great many repeats, and not a single request for the return of the $3.50 has been made, say the manufacturers. Many watchmakers have of their own accord written to the manufacturers praising JARENE as a boon to the industry. Since it is sold on a money back guarantee all watchmakers should avail themselves of its benefits. Every watchmaker has the rust problem.

Waltham Watch Program Stirs Nation-Wide Interest

The new Waltham Watch radio program featuring Sumner Welles has already resulted in a wave of spontaneous acclaim from the public and the trade alike. Although the show has been on the air only twice at this writing, there is little doubt but that it is well on its way toward building a large, interested and loyal listening audience.

Letters are flooding in from every part of the country, commending the Waltham Watch Company on its decision to render the public a real and timely service in presenting Mr. Welles' authoritative talks on matters of supreme importance to every American family. Many requests for reprints of Mr. Welles' scripts are being received, and Mr. Welles, himself, is receiving invitations to speak at more local functions than his busy schedule will permit him to accept.

The reaction to the broadcast from the trade has been equally gratifying. Already, a surprising number of prominent retail and wholesale jewelers have taken the occasion to congratulate the Waltham Watch Company on its foresight in using this method to build good-will and public acceptance for its postwar merchandise.

"The program," says Mr. Ira Guilden, president of Waltham, "is living up to our expectations to date. I hope that it will be regarded in the nature of a public service, as intended . . . and as such, create a nationwide acceptance for our products in the future, from which every jeweler carrying the new Waltham line of watches for men and women will benefit.

I would like everyone to understand, however, that the Sumner Welles program, valuable as I hope it will prove, is but the first step in a far-reaching and comprehensive plan to establish and maintain Waltham's century-old leadership with the American public."

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